

Application No.: 10/721,616

Docket No.: TOW-051

REMARKS

Applicants amend claim 1. Support for the amendment can be found throughout the application and at least at Fig. 1 and Page 19, lines 3-5. Upon entry of this amendment, claims 1-6 is pending, of which claim 1 is independent. Applicants respectfully submit that the pending claims define over the art of record.

Claim Rejection Under 35 U.S.C. §102(e)

Claims 1-6 are rejected under 35 U.S.C. §102(e) as being anticipated by United States Patent Application Publication No. 2003/0064266 to Ogami et al. ("hereafter Ogami"). Applicants respectfully submit that the Ogami reference does not disclose the limitation of a coolant flow field formed along a surface of said separator extends in a portion of said surface that corresponds to a power generation surface of said electrolyte electrode assembly, as recited in amended claim 1. The Ogami reference also does not disclose an air-releasing passage that connects to the coolant flow field and a coolant discharge passage provided at a vertically middle position of the other horizontal end of the separator, as recited in claim 1.

The Ogami reference discloses a fuel cell stack utilizing latent heat cooling and how to solve unequal distribution of fuel gas and water in such a fuel cell system. See paragraphs 13-17. In a latent heat cooling fuel cell system, cooling plates can be eliminated and a large amount of cooling water circulation is not needed because water is mixed with fuel gas to provide the latent heat cooling effect. See paragraph 14. In contrast, the claimed invention uses cooling plates and coolant to cool the power generation surface of the electrolyte electrode assembly. Specifically, in the claimed invention, coolant flow field is formed along a surface of the separator and extends to a portion of the surface that corresponds to a power generation surface of the electrolyte electrode assembly. Applicants respectfully submit that the Ogami reference does not disclose the limitation of a coolant flow field formed along a surface of said separator extends in a portion of said surface that corresponds to a power generation surface of said electrolyte electrode assembly, as recited in amended claim 1.

The Ogami reference further discloses a water supply manifold 14 that is provided at a side marginal portion of the separator 5. Water is supplied from the water supply manifold 14 to a fuel gas supply manifold 11a through a water supply groove 15 that is positioned outside the

Application No.: 10/721,616

Docket No.: TOW-051

power generation surface of the membrane electrode assembly. The Ogami reference does not disclose a water exhaust manifold, but discloses a gas vent hole 24. Hence, the Ogami reference does not disclose a coolant discharge passage that extends through the fuel cell in the stacking direction, as recited in claim 1. The Ogami reference also does not teach an air-releasing passage that connects to the coolant flow field for releasing air from the coolant flow field, the air releasing passage is formed at an upper position of an end of the separator such that at least part of the air-releasing passage is positioned above the top of the coolant flow field, as recited in claim 1.

Accordingly, Applicants respectfully submit that the Ogami reference fails to disclose each and every element and limitation of claim 1. Applicants respectfully request the Examiner to reconsider and withdraw the rejection of claim 1.

Applicants note that the dependent claims also recite patentable subject matter. For example, claim 4 recites that each separator has two metal plates, where coolant flow fields are formed between the two metal plates. In contrast, the Ogami reference discloses that each separator 5 has only a single plate, where one surface has fuel gas supply grooves 9b and the other surface has oxidant gas supply grooves 9a. As such, for this and the reasons set forth above, Applicants respectfully submit that the dependent claims also define over the art of record.

NOV 22 2006

Application No.: 10/721,616

Docket No.: TOW-051

CONCLUSION

In view of the above amendment, Applicants believe the pending application is in condition for allowance.

Applicants believe no fee is due with this statement. However, if a fee is due, please charge our Deposit Account No. 12-0080, under Order No. TOW-051 from which the undersigned is authorized to draw.

Dated: November 22, 2006

Respectfully submitted,

By 

Anthony A. Laurentano

Registration No. 38,220

LAHIVE & COCKFIELD, LLP

One Post Office Square

Boston, Massachusetts 02109-2127

(617) 227-7400

(617) 742-4214 (Fax)

Attorney For Applicant